

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicants thank the Examiner for carefully considering this application.

I. Disposition of Claims

Claims 1-40 are pending in this application. Claims 1, 15, 21, and 28 are independent. The remaining claims depend, directly or indirectly, from claims 1, 15, 21, and 28. Claims 1, 15, and 21 have been amended by this reply. No new matter has been added by way of these amendments.

II. Rejection under 35 U.S.C § 102

Claims 1-3, 5-7, 15, 19-23, and 25 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,893,079 ("Cwenar"). Claims 1, 15, and 21 have been amended in this reply to clarify the present invention. To the extent that this rejection may still apply to the amended claims, the rejection is respectfully traversed.

The present invention relates to an information management system. This system includes a data repository adapted to store related data tied to a key parameter field. In particular, the related data may be data relevant to hydrocarbon-producing portfolio. As amended, the independent claims include "wherein the related data are relevant to hydrocarbon-producing portfolio." Therefore, in one example, a database may store proposed well locations, corresponding lease obligations, capital equipment at well locations, and estimated hydrocarbon reserves in reservoirs penetrated by existing and

prospective wells. (See, *e.g.*, page 16, line 23 - page 17, line 2.) In one or more embodiments, the key parameter field may be a unique American Petroleum Institute (API) well code, which are assigned to wells in the United States. In preferred embodiments, data related to a particular API well code is linked when stored in the data repository.

Further, the system includes at least one application server, which is adapted to provide a plurality of different applications to a plurality of users. The application server is operatively connected to the data repository, thereby allowing each application to retrieve and update data having a key parameter field. The plurality of different applications generates (and/or manipulates) some data, which in turn is updated in the data repository for use by the plurality of applications. Examples of applications may include a geo-science application, a petroleum land management application, a drilling engineering application, *etc.*

Advantageously, the claimed invention provides an integrated process and software system able to drive and facilitate efficient, effective, and live transfer of information, data, and knowledge among multiple business team members of an organization both within the office and remotely located in field operation environments.

Therefore, in one example, a field operator may generate data including production level data, tank level data, well pressure data, *etc.* This data with a key parameter field is stored in a data repository. A finance analyst within the organization may use the production level data having the same key parameter field to generate economic data, which is in turn used by a market analyst. This information management system as recited in claims 1, 15, and 21 provide a seamless transference of information

relating to hydrocarbon-producing portfolio.

In contrast, Cwenar discloses a system for receiving, processing, creating, storing, and disseminating *investment* information. Cwenar expressly defines investment information as: “mutual funds, common and preferred shares of stock...high yield corporate bonds and high grade corporate bonds, municipal bonds, United States bills, notes and bonds, mortgage related investments, and short term securities...banker acceptances, repurchase agreements,” (col. 3, ll. 56-63).

In particular, Cwenar is completely silent to “data [that] are relevant to a hydrocarbon-producing portfolio,” as recited in amended claims 1, 15, and 21. Cwenar states, “[i]t is an object of the present invention to provide a computerized system for interfacing with multiple external sources of data to receive updated *investment* information and to assimilate such information into information contained within the central database which is associated with the server means,” (col. 2, ll. 52-57) (emphasis added). On the other hand, claimed invention generally relates to the generation, storage, and manipulation of data in a hydrocarbon-producing portfolio, rather than investment information.

Additionally, Cwenar is completely silent to the key parameter field as recited in claim 1. In one or more embodiments of the claimed invention, the key parameter field relates to a facility for data to be used in a number of different applications across an organization. In one example, data includes “an “identifier” or “tag” indicating which asset/opportunity or record the data corresponds to, so that the data can be linked to the appropriate record in the data repository 30,” (page 11, lines 10-14 of the specification). Therefore, in one example, an accountant may use an accounting application specific to

his job function, and a marketing representative may use a forecast application specific to his job function that import data of the same key parameter field. Cwenar does not show or suggest key parameter fields as recited in claim 1.

In fact, Cwenar, in reference to Figure 4, which is “a schematic diagram of a form of user arrangement,” states:

a plurality of user workstations each having an external user interface means...in communication with server 100 and central database 101. These external user interface means 126-140 (even number only) permit users to access the central database simultaneously and enter all inquiries and receive all data permitted within whatever rules have been established with respect to a specific user. (col. 10, ll. 24-31)

In other words, Cwenar teaches a method for a plurality of users to access information through communication with a server and a database. The plurality of users’ access to particular information is restricted by legal rules with respect to financial trading, *etc.* Cwenar is completely silent to data being stored or tied with key parameter fields. Consequently, Cwenar is completely silent to a plurality of user using related data having key parameter fields and updating a data repository (*e.g.*, a database) with related data, which may be shared and used by different applications to produce other related data having the key parameter field.

Therefore, Cwenar fails to show or suggest the present invention as recited in the amended claims 1, 15, and 21. Thus, the claims as amended are patentable over Cwenar. Dependent claims are allowable for at least the same reasons. Accordingly, withdrawal

of this rejection is respectfully requested.

III. Rejections under 35 U.S.C § 103

A. Cwenar and Armitage

Claims 4, 16-18, 24, 26, and 27 were rejected under 35 U.S.C. § 103(a) as being obvious over Cwenar in view of U.S. Patent No. 5,475,589 (“Armitage”). Claims 1, 15, and 21 have been amended in this reply to clarify the present invention. Claims 4, 16-18, 24, 26, and 27 depend, directly or indirectly, from claims 1, 15, and 21. To the extent that this rejection may still apply to the amended claims, the rejection is respectfully traversed.

As previously stated, Cwenar lacks an information management system as recited by claims 1, 15, and 21. Again, Cwenar is completely silent to “a key parameter field,” which allows related data to be used by a plurality of different applications. Armitage is completely silent with respect to key parameter field.

First, while Cwenar relates to a system for using investment information, *i.e.*, mutual funds, shares of stock, municipal bonds, *etc.*, Armitage relates to a method for translating seismic data into lithology data during exploration of oil and gas. Secondly, there is no motivation to combine the system for using investment information as taught by Cwenar with the evaluation system for hydrocarbon production as taught by Armitage. Furthermore, the present invention as recited in claims 1, 15, and 21, generally relates to production and exploration of oil and gas.

Contrary to the Examiner’s assertion, Cwenar does not teach or suggest using the system for managing investment information in an industrial capacity. That is,

information received, processed, created, stored, and disseminated by Cwenar relates specifically to investment data, rather than the production of goods. For example, Cwenar teaches, “[d]ata sources 10, 12, 14, 16, [in reference to Figure 1] which may provide information relating to yields, maturities, dividend amounts, and repayment dates, currency exchange rates, credit ratings, and the like,” (col. 4, ll. 62-64).

In contrast, the claimed invention receives as input various data including seismology data (*e.g.*, porosity, water saturation, and well log types and curves), reservoir data, regulatory data (*e.g.*, special forms to government agencies), accounting data (*e.g.*, working interest payable on property or royalty obligations owed to a lessor), operational data, marketing data, *etc.* (Please *see, e.g.*, pages 16-22 of the specification). The present invention relates to the management of information of hydrocarbon production and, thus is inclusive of various forms and types of data, which relate to hydrocarbon production. On the other hand, Armitage relates solely to seismology data and Cwenar relates solely to investment information data.

Moreover, the teaching of the term “portfolio” as it relates to investment banking defines a collection of various stocks, bonds, funds, *etc.* of a particular client, whereas, in one or more embodiments of the claimed invention, a hydrocarbon-producing portfolio may relate to, for example, existing and proposed well locations, estimated hydrocarbon reserves, *etc.* Therefore, the portfolio as taught by Cwenar is different from the hydrocarbon-producing portfolio as recited in claims 1, 15, and 21.

The combination of Cwenar and Armitage does not teach the claimed invention as Cwenar is completely silent to a key parameter field as recited in claims 1, 15, and 21. Additionally, because Cwenar solely teaches managing investment information, there is

no suggestion or teaching that the investment system as taught by Cwenar has an application in manufacturing or producing any goods, such as, hydrocarbons. As such, there is no evident or obvious reason to combine the teachings of Cwenar and Armitage.

Therefore, the amended claims 1, 15, and 21 are patentable over Cwenar and Armitage, whether considered separately or in combination. Dependent claims 4, 16-18, 24, 26, and 27 are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

B. Cwenar and Dembo

Claims 8-11 were rejected under 35 U.S.C. §103(a) as being unpatentable over Cwenar in view of U.S. Patent No. 5,148,365 ("Dembo"). Claim 1 has been amended in this reply to clarify the present invention. Claims 8-11 depend, directly or indirectly, from claim 1. To the extent that this rejection may still apply to the amended claims, the rejection is respectfully traversed.

The combination of Cwenar and Dembo does not teach the present invention as recited in claim 1. Dembo fails to provide that which Cwenar lacks, namely, "a data repository adapted to store related data tied to a key parameter field, wherein the related data are relevant to a hydrocarbon-producing portfolio; and at least one application server adapted to provide a plurality of applications to a plurality of users, the at least one application server operatively coupled to the data repository, each of the applications adapted to generate at least some data having the key parameter field, the at least one application server adapted to retrieve and update selected ones of the related data when ones of the applications use and generate application data having the key parameter

field,” as recited in claim 1.

In particular, Dembo relates to a method of combining scenarios for optimally allocating available resources in a financial system. In the provided examples, Dembo also teaches toward management of investment information. For example, Dembo states, “[t]he computer is in communication with a number of databases 206 to 210 which store information relating to various types of short term options that are available in today’s market...the underlying assets available for each type of short term options, (*e.g.*, IBM shares, Texaco shares, *etc.*) and expected payout on any of the assets (*i.e.*, dividends payable),” (col. 8, ll. 30-34). Dembo is completely silent to data related to the production of hydrocarbons as required by claim 1. In other words, the allocation of resources as taught by Dembo relates to modeling financial instruments, in contrast to resources relating to the production of hydrocarbons as recited in claim 1.

Because Dembo fails to provide that which Cwenar lacks with respect to claim 1, claim 1 is patentable over Cwenar and Dembo, whether considered separately or in combination. Therefore, claims 8-11 are likewise patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

C. Cwenar and O’Shaughnessy

Claim 12 was rejected under 35 U.S.C. §103(a) as being unpatentable over Cwenar in view of U.S. Patent No. 6,484,151 (“O’Shaughnessy”). Claim 1 has been amended in this reply to clarify the present invention. Claim 12 directly depends from claim 1. To the extent that this rejection may still apply to the amended claims, the rejection is respectfully traversed.

The combination of Cwenar and O'Shaughnessy does not teach the claimed invention as recited in claim 1. In particular, O'Shaughnessy fails to provide that which Cwenar lacks with respect to claim 1. As previously mentioned, Cwenar relates specifically to investment information management system, and O'Shaughnessy relates to using a computer to select corporate stocks for investment, (col. 1, ll. 11 and 12). Neither reference teaches an information management system for hydrocarbon-producing portfolio as required by claim 1.

Because O'Shaughnessy fails to provide that which Cwenar lacks with respect to claim 1, claim 1 is patentable over Cwenar and O'Shaughnessy, whether considered separately or in combination. Therefore, claim 12 is likewise patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

D. Cwenar and Lu

Claims 13 and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Cwenar in view of U.S. Patent No. 6,373,489 ("Lu"). Claim 1 has been amended in this reply to clarify the present invention. Claims 13 and 14 depend, directly or indirectly, from claim 1. To the extent that this rejection may still apply to the amended claims, the rejection is respectfully traversed.

The combination of Cwenar and Lu does not teach the present invention as recited in claim 1. Lu fails to provide that which Cwenar lacks with respect to claim 1. In particular, Lu relates to a method for three dimensional computer graphics and geometry modeling. Moreover, there is no motivation to combine a method for modeling three dimensional computer graphics with an investment information management system.

Because Lu fails to provide that which Cwenar lacks with respect to claim 1 and the there is no motivation to combine these references, claim 1 is patentable over Cwenar and Lu, whether considered separately or in combination. Therefore, claims 13 and 14 are likewise patentable for at least the same reasons.

E. Lu

Claim 28 was rejected under 35 U.S.C. §103(a) as being unpatentable over Lu .

As previously stated, Lu teaches modeling three dimensional computer graphics. This rejection is respectfully traversed. Lu is completely silent to “having a plurality of asset team members each using an application related to the function of the respective team members comprising at least two selected from a group of geoscientist, a landman, a reservoir engineer, a regulatory compliance administrator, a right-of-way administrator, a drilling engineer, a completion engineer, a field operator, a sales and marketing representative, and a portfolio manager, and automatically updating corresponding data used by any other one of the applications based on the data generated by using at least one of the applications,” as recited in claim 28.

Therefore, when Lu states, “IGM mechanisms for consistency management, interactive modeling, partial update, material property management, structural editing, save restore, and so on, apply to SIGMA objects automatically,” (col. 25, ll. 33-36), relates to the developing and managing the geometric models and not a hydrocarbon producing portfolio as recited in claim 28. In particular, Lu teaches computer-generated graphics, *e.g.*, virtual representation of objects. On the other hand, the claimed invention generally relates to the management of *actual* resources.

Further, Lu is completely silent to “using an application related to the function of the respective asset team member,” as recited in claims 28. The application taught in Lu solely relates to geometric modeling.

Because Lu does not teach or suggest to the features of claim 28, claim 28 is patentable over Lu. Accordingly, withdrawal of this rejection is respectfully requested.

F. Lu and Armitage

Claims 29-40 were rejected under 35 U.S.C. §103(a) as being unpatentable over Lu in view of Armitage. This rejection is respectfully traversed.

As previously stated, Lu is completely silent to the elements of the claimed invention as recited in claim 28. Claims 29-40 depend, directly or indirectly, from claim 28. Armitage fails to provide that which Lu lacks.

As previously stated, Armitage relates to a method for translating seismic time data to seismic depth/lithology data, which enables reduced risk location of hydrocarbons. However, the combination of Lu and Armitage does not teach the claimed invention. Meaning, combining the geometric modeling system with the translations of seismic time data into seismic depth/lithology data does not teach a method for managing a hydrocarbon-producing portfolio as recited in claim 28.

Moreover, there is no motivation to combine Lu and Armitage. Because Lu relates to computer-generated graphics, whereas Armitage teaches the exploration of actual resources, it is unclear to the Applicant how the teachings of virtual representations and the exploration of real resources can be readily combined.

Because Armitage fails to provide that which Lu lacks with respect to claim 28,

claim 28 is patentable over Lu and Armitage, whether considered separately or in combination. Therefore, claims 29-40 are likewise patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

IV. Concluding Remarks

Applicant believes this reply to be fully responsive to all outstanding issues and place this application in condition for allowance. If this belief is incorrect, or other issues arise, do not hesitate to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 06558.007002).

Respectfully submitted,

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